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PI
1. (Amended) A torch for heating a member attendant a metal bonding operation, comprising:

CH
a torch head having an oxygen passageway and a fuel gas passageway formed therein, each passageway having an inlet,

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a torch handle connected to the torch head and having a fluid conduit for each passageway in fluid communication with the respective inlet,

oxygen control means mountable on the torch head to extend into the oxygen passageway for selectively blocking the flow therethrough and adjustably controlling the rate of flow therethrough,

fuel gas control means mountable on the torch head to extend into the fuel gas passageway for selectively blocking the flow therethrough and adjustably controlling the rate of flow therethrough,


a torch tip, and

means for attaching the torch tip to the torch head and cooperating with the torch head to place the torch tip in fluid communication with said fuel gas and oxygen passageways,

said torch tip including a tip stem having an inlet end in fluid communication with said fuel gas and oxygen

passageways, [and] an outlet end, and a tip head joined to the tip outlet end in fluid communication with the tip outlet end and having a substantially arcuate configuration extending angularly between terminal ends about an axis through an angle of at least about 240°, and a maximum angle of about 280°, so as to facilitate easy positioning of the member to be heated through an open side portion of said substantially arcuate tip head for disposition along said axis of said tip head, said tip outlet end of said tip stem being connected to said tip head at a position intermediate said terminal ends of said substantially arcuate tip head,

said tip head comprising a substantially planar member defining a first plane located at a first predetermined axial position along said axis and having a single array of flame outlet orifices, defined within sidewall portions of said tip head and disposed within said first plane of said tip head, comprising at least [a] first, [a] second, and [a] third flame outlet orifices, [the] said flame outlet orifices being angularly spaced from one another in a substantially circumferential manner throughout said substantially arcuate configuration of said tip head such that two of said flame outlet orifices are located immediately adjacent to said terminal ends of said substantially arcuate tip

 head, said at least first, second, and third flame outlet orifices are disposed in said circumferential manner around said axis of said tip head such that a substantially complete circumferential flame array for heating the member can nevertheless be defined along a substantially complete circumferential locus by a minimum of three flame outlet orifices, and said flame orifices are angularly oriented with respect to said first plane of said tip head so as to [opening] open toward a [common point] single axial position which is disposed within a second plane which is disposed parallel to said first plane of said tip head and which is located at a second predetermined axial position along said axis of said tip head which is axially offset from said first predetermined axial position of said first plane of said tip head and within which said flame outlet orifices are disposed so as to thereby project flames outwardly therefrom at a predetermined angle with respect to said first plane of said tip head so as to thereby achieve heating of the member, within and along said second plane, attendant a metal bonding operation to be achieved along said second plane.

Please rewrite Claim 5 as follows:

CA 5. (Amended) The torch of Claim [4] 1 wherein the third orifice is about midway angularly between the first and second orifices and is angularly spaced from each of the first and second orifices by an angle of about 120°.


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CB Please rewrite Claim 9 as follows:

9. (Amended) A torch tip adapted for use with a fuel gas torch to heat or solder a metal structure such as tubular members, comprising:

an elongated tip stem having an inlet end and an outlet end and an elongated tubular tip head arcuately curved about a common point and spaced therefrom, said tip head being of an arcuate length [to] and comprising a fluid passageway extending angularly between terminal ends about an axis through an angle of at least about [245°] 240°, and a maximum angle of about 280°, relative to said common point so as to facilitate easy positioning of a tubular member to be heated through an open side portion of said substantially arcuate tip head for disposition along said axis of said tip head, said tip outlet end of said tip stem being connected

to said tip head at a position intermediate said terminal ends of said substantially arcuate tip head, [and having first and second closed ends and a fluid passageway extending between the closed ends,] said tip head [having] further comprising an angularly inner peripheral surface and an angularly outer peripheral surface more remotely spaced from said common point along its length than the angularly inner peripheral surface, [said inner peripheral surface having several outlet orifice opening therethrough toward said common point and to the tip head passageway and being substantially equally angularly spaced from one another,] the tip stem having a passageway extending from the stem inlet end and opening to the tip head passageway.

said tip head further comprising a substantially planar member defining a first plane located at a first predetermined axial position along said axis and having a single array of flame outlet orifices, defined within sidewall portions of said inner peripheral surface of said tip head and disposed within said first plane of said tip head, comprising at least first, second, and third flame outlet orifices, said flame outlet orifices being angularly spaced from one another in a substantially circumferential manner throughout said substantially arcuate configuration of said



tip head such that two of said flame outlet orifices are lo-
cated immediately adjacent to said terminal ends of said
substantially arcuate tip head, said at least first, second,
and third flame outlet orifices are disposed in said circum-
ferential manner around said axis of said tip head such that
a substantially complete circumferential flame array for
heating the tubular member can nevertheless be defined along
a substantially complete circumferential locus by a minimum
of three flame outlet orifices, and said flame orifices are
angularly oriented with respect to said first plane of said
tip head so as to open toward a single axial position which
is disposed within a second plane which is disposed parallel
to said first plane of said tip head and which is located at
a second predetermined axial position along said axis of
said tip head which is axially offset from said first prede-
termined axial position of said first plane of said tip head
and within which said flame outlet orifices are disposed so
as to thereby project flames outwardly therefrom at a prede-
termined angle with respect to said first plane of said tip
head so as to thereby achieve heating of the tubular member,
within and along said second plane, attendant a metal bond-
ing operation to be achieved along said second plane.